

THE FALSE SPIDER MITE, *BREVIPALPUS LEWISI*  
McGREGOR — A POTENTIAL PEST OF  
ENGLISH WALNUT

(Acarina: Phytoptipalpidae)

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According to Pritchard and Baker (1951) the false spider mite, *Brevipalpus lewisi* McGregor is only known from California. They reported it from a number of localities in the San Joaquin and Sacramento Valleys as well as from Riverside. Lewis (1944) reported it as causing damage to lemons at Porterville, and in the same area Ebeling and Pence (1949) associated the mite with serious injury to pomegranate.

On September 15, 1953 a small localized infestation of this mite<sup>1</sup> was encountered on the southeast side of a single walnut tree in a 160-acre orchard at Linden, California where walnut insect investigations were being conducted. No expansion in the infestation was observed for the remainder of the season, and the mite was not encountered in 1954.

On September 21, 1955 a destructive infestation of *Brevipalpus lewisi* McGregor was found to exist over a portion of the experimental orchard. A survey was conducted and it appeared that the mite had apparently dispersed outward in a broad arc from the point where it was noted in 1953. At the time the infestation was detected, some defoliation had already occurred. This was noticeable on the south-east exposure of the trees and was most pronounced about the skirt of the trees. The degree of infestation was not uniform, and in the most severe cases it was approaching the lower limit of economic damage.

The presence of the false spider mite might in all probability have been detected sooner had it not been for the fact that throughout the orchard there was a light, but not destructive, infestation of the Pacific spider mite *Tetranychus pacificus* McGregor and the European red mite, *Metatetranychus ulmi* (Koch.).

*Brevipalpus lewisi* McGregor is a very small flattened species that can just be seen with the naked eye. On walnut it is able to develop in enormous numbers and heavily infested leaves practi-

<sup>1</sup> Specimens determined by A. Earl Pritchard, Department of Entomology and Parasitology, University of California, Berkeley, California.

cally swarm with them. Where the population density is heavy the infested leaves become somewhat coppery in appearance. The damage done is similar to that caused by the Pacific spider mite but the coppery color of the leaves serves to differentiate the work of the false spider mite from that of the Pacific spider mite. Further, with the former species, little or no webbing occurs. Where defoliation has been caused by the false spider mite, the dropped leaves are coated with white shed skins.

The false spider mite apparently spread without regard through plots treated with several aphicides which included the systemic insecticides Systox and OMPA. These materials appeared to exert no suppressing action upon the pest.

On September 21, when the false spider mite was observed the Pacific spider mite and the European red mite were being brought under complete control by natural enemies. Of the natural enemies *Stethorus* sp. appeared to be the most important. There were many other predators present including syrphid flies, lace wings, and predatory mites. None of these natural enemies seemed to exert any influence upon the false spider mite, and the latter gradually spread to all parts of the trees. They were still abundant in late October, long after harvest had been completed. Injury progressed until on some trees it reached the lower limit of economic damage.

This marks the first record of *Brevipalpus lewisi* McGregor on walnut and what the future may hold remains to be determined. However, the species has certainly demonstrated the possibility of it becoming a potential pest of walnut. The large number of overwintering adults in the infested orchard suggests that this will be the case.

#### LITERATURE CITED

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